



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.              | CONFIRMATION NO.       |
|--|-------------|----------------------|----------------------------------|------------------------|
| 10/591,316   | 06/27/2007  | Kenichi Higashiyama  | 47233-5008-00-US<br>(230977)     | 9446                   |
| 55694 7590 03/02/2010<br>DRINKER BIDDLE & REATH (DC)<br>1500 K STREET, N.W.<br>SUITE 1100<br>WASHINGTON, DC 20005-1209 |             |                      | EXAMINER<br>MACAULEY, SHERIDAN R |                        |
|  |             |                      | ART UNIT<br>1651                 | PAPER NUMBER           |
|  |             |                      | MAIL DATE<br>03/02/2010          | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Advisory Action  
Before the Filing of an Appeal Brief**

Application No.

10/591,316

Applicant(s)

HIGASHIYAMA ET AL.

Examiner

SHERIDAN R. MACAULEY

Art Unit

1651

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 27 January 2010 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☒ The Notice of Appeal was filed on 19 February 2010. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: \_\_\_\_\_.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
12. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_.  
13. ☐ Other: \_\_\_\_\_.

/Ruth A. Davis/  
Primary Examiner, Art Unit 1651

Continuation of 11. does NOT place the application in condition for allowance because: Applicant's arguments have been considered but do not place the application in condition for allowance because they have not been found to be persuasive. Applicant argues that the combined teachings do not render obvious the claimed invention because they do not each the use of a medium with the claimed AN/TN ratio. However, the instant specification cites the use of organic nitrogen such as peptone or yeast extract, and states that such sources generally have an acceptable AN/TN ratio for use in the claimed invention (see specification, p. 9, par. 13-p. 10, par. 15). Thus, although the cited references do not teach the claimed AN/TN ratios, they teach that organic nitrogen sources, such as those that are taught to be suitable in the instant specification, may be used and provide motivation for one to vary such sources. Therefore, there is motivation for one of ordinary skill in the art to arrive at the claimed nitrogen source in the course of routine experimentation and one would have had a reasonable expectation of success in doing so.

Applicant further argues that neither JP3163127 nor Yamanaka are relevant to the instant invention. Specifically, applicant argues that JP3163127 is directed only to the cultivation of *H. pluvialis* and not to the production of astaxanthin; however, *H. pluvialis* produces astaxanthin and a method for growing such cells would inherently be directed to the production of astaxanthin. Although applicant also argues that Yamanaka is directed solely to the growth of algae in waste waters, applicant is advised that the wastewaters taught in the reference are organic byproducts of food production, which are taught to be suitable medium components by the instant specification (see, for instance, specification at p. 9, par. 15, wherein corn steep liquor is cited as a suitable medium component). Therefore, the teachings of the cited references are relevant and applicable to the claimed invention.

Although applicant further argues that JP3163127 teaches away from the instant invention by teaching that organic nitrogen sources are not suitable for use in algae cultivation, it is noted that the reference only teaches that amino acids may be preferential under certain conditions. This discussion of the alteration of nitrogen sources does not constitute a teaching away, as the reference makes clear that the algae will still grow with a variety of nitrogen sources. Particularly, the reference teaches that yeast extracts may be added to algal cultivation medium, which is an organic nitrogen source. Therefore, although the reference teaches that organic nitrogen is not used under certain cultivation conditions, it does not provide a clear teaching away nor does it provide evidence that one of ordinary skill in the art would be unsuccessful when using an organic nitrogen source in an algal cultivation medium in all conditions.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). Although applicant argues that the instant specification has been used to provide evidence to enable construction of the obviousness rejection, it is noted that the specification has only been used to demonstrate that cultivation medium components that were known to be useful for the cultivation of algae at the time the invention possessed the properties of the components recited in the claims. Applicant is advised that the discovery of a previously unappreciated property of a prior art composition, or of a scientific explanation for the prior art's functioning, does not render the old composition patentably new. Thus the claiming of a new use, functions or unknown property that is inherently present in the prior art does not necessarily make the claim patentable (MPEP 2112). If applicant intends for the claimed method to include a step wherein the medium components are specifically analyzed prior to inclusion in the medium to ensure their AN/TN ratio, applicant is advised to include such a step in the claimed method. Applicant's arguments have therefore been considered but they have not been found to be persuasive.